

II. DEFENDANT UPPAL'S OFFENSE CONDUCT

As far back as when Uppal and codefendant Yihao Pu worked together at Company A, Uppal and Pu planned to develop trading strategies for themselves and not for the benefit of their employers. For instance, in November 2009, Pu shared with Uppal his anonymously written website where Pu wrote, "Startup costs for a prop shops [sic]. A couple wrong ways and a right way." In the article, Pu identified "infrastructure" as a "main barrier to entry" in the high frequency trading industry. Pu also identified "trading infrastructure," "back-testing infrastructure and enough tick data," and "research infrastructure" as the three "critical parts" needed to open a proprietary trading shop. At the end of the article, Pu encouraged anyone with interest in working with him to "give me a ring if you're interested in this business." Neither the blog nor the article identified Pu by name. Then, on January 7, 2010, Pu and Uppal discussed their need to hide their "non-work related intentions" from Company A, and also discussed their desire to obtain high-frequency related data, and the logistics involved in opening their own fund together.

After Uppal joined Pu at Citadel, the two continued to scheme. In July 2011, Uppal sent Pu four computer files that Uppal had created for Citadel as part of Uppal's employment. At the time, Uppal knew the files belonged to Citadel; he knew that the files were confidential; and he knew that he needed Citadel's permission to transfer them to Pu (which he did not have). The first file transfer occurred on July 20, 2011. A few days later, Uppal chatted with Pu about their plans to work together at their own trading firm with the hopes that they would be

able to show profitable trades, which would allow them to set up their own trading firm:

PU At some point in the future, we should have a system to take a set of time series' and spit out whether we can profitably trade the market

PU At that point, we should also ask these contacts for market data from Asia

PU If we can show profitable trades, these people can handle the logistics of setting up a trading entity

UPPAL Sounds reasonable, we can make something that automatically grid searches over a set of signals, tries different models and constructs backtests for the best that it finds

UPPAL Though we'll need to seed it with some market knowledge
* * *

UPPAL FINance?

UPPAL More like FUNance

PU Hah

UPPAL “SupPu FUNancial”

PU omg

UPPAL Yes

The next day, July 26, 2011, Uppal transferred three files out of Citadel's secure computer network to Uppal's home computer. Uppal then sent the files to Pu's computer system. Uppal did not have authority from Citadel to transfer the files to Pu. In fact, Citadel owned this intellectual property, not Uppal. Moreover, Pu had no reason to access these files as part of his job responsibility, nor did Citadel grant Pu authority to access to these files. These three files were trade secrets and confidential business information belonging to Citadel. Citadel took reasonable measures under the circumstances to keep these files secret; and the

information in the files was not generally known to the public and was not readily ascertainable through proper means by the public. The information in the files derived economic value from not being generally known and readily ascertainable through proper means by the public.

The three files—identified as Files 7 through 9 in the superseding indictment and plea agreement—that Uppal transferred to Pu were helpful to Pu. File 7 was a program simulating trading based on a particular trading strategy, alphas, and trading parameters. File 8 was designed to take a partially specified trading strategy and different trade parameters to assess the value of a trading strategy for a particular parameter set. File 9 was source code that was the “glue” between File 7 and File 8. With these three files, Pu would be able to research and better develop a trading system using the alpha data that Pu had stolen from Citadel. (Alpha data is raw information that needs to be translated in order to be useful.) With the stolen files from Uppal, Pu could use the alphas he improperly obtained from Citadel to answer four trading questions: (a) “When should I trade?”; (b) “How big should the trades be?”; (c) “How much risk am I willing to hold?”; and (d) “When should I stop trading?”

After transferring the files, Uppal continued to scheme with Pu. Four days after the last file transfer, Uppal forwarded to Pu an email Uppal received from a friend (Individual A). In that email, Individual A told Uppal that he was looking to “disrupt[] big industries,” and proposed a “really cool idea,” namely, obtaining office space in San Francisco or New York, gathering their “most entrepreneurial and

smart friends together, and concurrently hack[ing] on trading algorithms/systems and startups.” After Uppal sent Pu this email, Uppal and Pu discussed whether to recruit Individual A into their “enterprise”:

PU Saw the email

* * *

UPPAL Did you read the whole thing

PU Yeah

* * *

PU Certainly [Individual A] is a clever guy

PU But he has no finance experience

UPPAL No, but I know him very well

PU Sure, how much do you think that would help?

UPPAL A lot, I’m pretty confident I know what makes him tick and what he’s capable of

UPPAL And what he’s bad at

PU Mhm

PU So what do you think he would be able to contribute?

PU At least initially

UPPAL To our enterprise?

PU Well to whatever gets you excited

UPPAL He has excellent attention to detail and work ethic (not unlike yourself). He can adapt quite well to different problem domains

* * *

UPPAL If we were building big systems I would definitely want him

PU Mhm

PU YEAH

PU Yeah

PU I hope we get to that stage

* * *

PU I'm actually quite confident that once the alpha is there finding the engineering talent and procurement (of capital) will be easy

PU Not that they are by nature easy

UPPAL I'm glad you agree

* * *

PU But first there would need to be a viable trading system

The next day, August 3, 2011, Uppal told his friend, Individual A, about his displeasure with Citadel and his desire to leave the company:

UPPAL This place is uncollaborative as fuck

UPPAL I can't even see the code for my infrastructure

UPPAL Which is problematic at times

Individual A Someone's probably reading your chat messages right now to stick it to you

UPPAL Eh, I'll take the risk

UPPAL Looking for an excuse to leave

Individual A Haha

Approximately three weeks later, Pu and Uppal went to a dinner with a recruiter in the financial industry. During the dinner, Uppal expressed interest in leaving Citadel. The recruiter recommended that Uppal send his resume to the recruiting company. The next day, Uppal sent his resume to the recruiter in order to have the recruiter pass his resume along to a competing financial firm in Chicago.

Two days after that meeting with the recruiter—the same day Citadel discovered Pu's suspicious activity on his work computer—Pu came to Uppal for

help. Pu told Uppal that Citadel confronted him about his suspicious activity at work. Uppal and Pu then exchanged the following text messages:

UPPAL Dude what the fuck.
PU They [Citadel] are trying to burn me.
UPPAL Shit fuck, let me know ANYTHING I can do.
UPPAL Will do anything I can.
PU Go home if you can.
UPPAL Will do right now.

Later that night, Uppal went to Pu's apartment. Uppal helped Pu remove six hard drives and computer equipment from the apartment, knowing that (a) Citadel confronted Pu about having the firm's proprietary data, and (b) Citadel instructed Pu to return the firm's proprietary data. Perhaps most importantly, Uppal also knew that, earlier in the summer, he transferred Citadel's intellectual property to Pu without Citadel's knowledge and authorization. Pu then hid those hard drives at a friend's (Individual B) apartment; Individual B later threw six of the hard drives in the Wilmette Canal.

Not only did Uppal obstruct justice by helping Pu conceal highly probative evidence, Uppal aggravated his crime through deception and lies. A few days after Citadel confronted Pu, Citadel approached Uppal and asked him about Pu's possession of Citadel's confidential business information. Uppal only provided partial information to Citadel, and intentionally failed to disclose to Citadel that he helped conceal and transfer Pu's computer equipment to a friend's apartment. Days later, Citadel again asked Uppal questions about Pu. During that session, Uppal did

not disclose that he had transferred Citadel's confidential business information to Pu.

III. DEFENDANT UPPAL'S ADVISORY GUIDELINES CALCULATION

A. Base Offense Level of Fourteen

Uppal pleaded guilty to one count of obstruction of justice, in violation of 18 U.S.C. § 1519. Per Guideline § 2J1.2(a), the base offense level is 14.

B. Two Levels for Destruction of a Substantial Number of Records/Probative Records

There is a two-level increase under Guideline § 2J1.2(b)(3) because Uppal's obstructive conduct (a) involved the destruction, alteration or fabrication of a substantial number of records, documents or tangible objects, and (b) involved the selection of any essential or especially probative record, document or tangible object to destroy or alter.

At Pu's apartment on August 26, 2011, Pu told Uppal that Citadel wanted all of his computers. Pu then told Uppal that he could not let Citadel know all of what he had on his computers. Uppal was there in the apartment when Pu told another friend (Individual B) that Pu planned to give Citadel only three of his computers and hide the rest with Individual B. Uppal then helped Pu and Individual B make two trips from Pu's apartment to Individual B's car, carrying Pu's computer equipment and hard drives out of Pu's apartment.

It was reasonably foreseeable to Uppal that Pu and Individual B might destroy the hard drives taken from Pu's apartment that contained Citadel trade secrets and confidential business information, which included the trade secrets

Files 7 through 9 that Uppal transferred to Pu. As an initial matter, Uppal knew when he helped conceal the evidence that he had already improperly transferred trade secrets from Citadel's computer system to Pu. Then, a few days after concealing the evidence, Uppal stated, "Pu told [Individual B] that he should hide the equipment at his apartment and then either Pu would ask for the equipment back or tell [Individual B] to get rid of the computer equipment." Uppal further acknowledged that, a few days after removing the hard drives from Pu's apartment, Pu stated to Uppal, "I have gotten rid of all the equipment," which led Uppal to believe that all of the hard drives had been destroyed.

Not only was it reasonably foreseeable to Uppal that Pu would destroy probative records, but it also was reasonably foreseeable to Uppal that the hard drives contained a substantial number of records. Physical hard drives are capable of storing a vast amount of data. Indeed, after recovering the six hard drives that Individual B threw into the Wilmette Canal, Citadel's forensic analysts attempted to preserve and recover the contents of the six hard drives. However, due to damage from the canal, only one of the six hard drives was fully restored. The one hard drive that was fully recovered was a 500 GB Hitachi hard drive, which contained a large number of proprietary Citadel files, including 21,300 files with daily market positions, 13,677 files containing market data, 79,390 statistical modeling files, 21,899 alpha data files, and the three trade secret files that defendant Uppal transferred to Pu. The Hitachi hard drive also contained source code for an application that streamed Citadel's data to Pu's Interactive Brokers trading

account. The forensic analysts further observed that the Hitachi hard drive contained evidence of Pu's efforts to erase data, including Google searches for "erase empty space," "erase Motorola," and the downloading of a file wiping utility from the Internet.

C. Defendant Uppal's Advisory Guidelines Range

Based on the foregoing, Uppal faces an offense level of 16. Because Uppal has accepted responsibility by timely pleading guilty, he is entitled to a three-level reduction. That results in an adjusted offense level of 13.

The government is not aware of any criminal history for Uppal, which results in his placement in Criminal History I.

With placement in Criminal History Category I and an adjusted offense level of 13, Uppal faces an advisory Guidelines range of 12 to 18 months' imprisonment.

IV. THE 18 U.S.C. § 3553(A) FACTORS

Uppal's advisory Guidelines range of 12 to 18 months' imprisonment has been calculated in terms of the nature of his crime (obstruction of justice) as well as the nature and number of records he helped conceal. Imposing a sentence within the advisory range of 12 to 18 months' imprisonment appropriately punishes Uppal for his crime and is sufficient but no greater than necessary to reflect the goals of sentencing laid out in 18 U.S.C. § 3553(a). The relevant § 3553(a) factors that make a Guidelines sentence reasonable are (a) the nature and circumstances of the offense; (b) the history and characteristics of the defendant; and (c) the need to

reflect the seriousness of the offense, to promote respect for the law, and afford adequate deterrence.

Uppal obstructed justice knowing that Pu had committed a crime and knowing that what he (Uppal) was doing was criminal. When Uppal helped Pu conceal Pu's hard drives, Uppal knew that earlier that summer he transferred Citadel's intellectual property to Pu without Citadel's authorization. Moreover, Uppal knew that he and Pu had been scheming that summer to develop their own trading strategy, and that Uppal had been looking for an opportunity to leave Citadel. Uppal's assistance to Pu in stealing Citadel's trade secrets is an aggravating factor that supports a sentence of imprisonment within the advisory Guidelines range. Uppal was no mere bystander at Pu's apartment on August 26, 2011, who acted out of haste and without forethought. To the contrary, Uppal knew that Pu had stolen Citadel's trade secrets and he knew those trade secrets were on Pu's computer system.

Furthermore, Uppal knew what he was doing was wrong. When Uppal first went to Pu's apartment, Uppal stated to Pu that they should turn over Pu's computer system to Citadel. Nonetheless, Uppal did not act on that instinct. Uppal instead helped Pu conceal his hard drives from Citadel. Uppal's conduct demonstrates that Uppal was acting consciously, deliberately, and with knowledge of the seriousness of his actions. To make matters worse, Uppal aggravated his crime by not disclosing it when he was first confronted by Citadel. Had Uppal come

clean to Citadel in August 2011, it is unlikely Pu would have had the opportunity to destroy hard drives with his friend's help by throwing them in the Wilmette Canal.

Uppal's obstruction of justice is a serious offense. Uppal and Pu concealed evidence in contemplation that a federal investigation might occur. If federal investigators are to enforce criminal law, they must be able to investigate and identify evidence of wrongdoing. To ensure that authorities can establish the proof necessary to prosecute offenders, laws criminalizing obstruction of justice must create strong incentives against destroying evidence.

In this case, a significant amount of evidence happened to be in the hands of the defendants. They faced a series of choices: conceal the evidence, do nothing, or turn it over. Defendants have a natural incentive to destroy or conceal damaging evidence, and defendants in similar situations may decide to do so unless adequately deterred. If penalties for obstruction are low relative to penalties for an underlying crime, an individual will be willing to risk prosecution for obstruction if an individual believes destroying evidence will reduce the possibility she will be found guilty of the underlying crime. Sentencing must ensure that defendants respect the law by keeping what they know could be evidence of a crime. That is particularly true in a case like this—involving the theft of trade secrets by an employee—where detection of the crime is already a difficult task.

Uppal's history and characteristics do not support a sentence below the advisory Guidelines range. Unlike many defendants this Court sees, Uppal was an intelligent and highly educated adult when he committed his crime. He had

graduated with honors from Carnegie Mellon University with a degree in computer science, and had been working in the financial trading industry for approximately three years at the time of his offense. Despite these obvious advantages and intelligence, Uppal helped Pu steal trade secrets from Citadel, then helped Pu obstruct justice.

Uppal's conduct and actions since his crime, indictment, and conviction do not mitigate against his offense conduct. For the fifteen months following termination of his employment by Citadel in September 2011, Citadel paid Uppal \$20,000 per month for 15 months under the terms a non-compete agreement that allowed Citadel some measure of protection for its intellectual property. In 2013, Uppal began working for a quantitative trading firm in New York—the same field that Uppal worked in while at Citadel. Uppal's continued work in the financial trading industry.

Uppal's character reference letters mention stories about Uppal helping a friend find a job in New York, Uppal's Kung Fu training, and his daily meditation sessions. Without a doubt, the writers of those letters are sincere and well-intentioned, but they also are unburdened by a full and complete understanding of Uppal's crimes, let alone the arrogance Uppal displayed in committing his crimes. The writers ask this Court to consider the criminal, but to disregard his crimes and the impact his crimes had. Worse yet, the writers invite the Court to see the criminal as the victim of codefendant Yihao Pu, rather than an adult man responsible for his own actions and their consequences.

A sentence within the advisory Guidelines range of 12 to 18 months' imprisonment will reflect seriousness of Uppal's offense, promote respect for the law, provide just punishment, and afford adequate deterrence of others. Uppal's request for a non-custodial sentence would make a mockery of this case, his criminal conduct, and would deter no one.

V. RESTITUTION

Citadel is entitled to a restitution order in the amount of \$759,649.55. That figure represents the investigative costs Citadel incurred in the days following Pu and Uppal's concealment of evidence. Specifically, that figure represents the amount of money Citadel spent on outside lawyers and its forensic computer consultants for its internal investigation between August 26, 2011 (the date Citadel confronted Pu about his computer activity and the same date Pu and Uppal concealed computer equipment), and September 20, 2011 (the date Citadel terminated Uppal's employment). As Citadel has described in its victim impact statement, attached hereto as Exhibit A, "the thefts committed by Pu and Uppal were disruptive, costly, and burdensome for Citadel." Moreover, the costs incurred by Citadel went well beyond the amount sought for restitution, but also included the time and effort spent assisting the federal government with its investigation and in preparing for trial against defendants Uppal and Pu.

The Mandatory Victims Restitution Act provides for mandatory restitution in all sentencing proceedings for convictions of any offense that is, inter alia, an offense against property under Title 18 in which an identifiable victim or victims

has suffered a pecuniary loss. *See* 18 U.S.C. §§ 3663A(c)(1)(A)(ii)-(c)(1)(B). The MVRA requires a defendant to make restitution to his victims for “other expenses incurred during participation in the investigation or prosecution of the offense or attendance at proceedings related to the offense.” *Id.* § 3663A(b)(4). Citadel is a victim of Uppal’s obstruction of justice. Under the MVRA, a “victim” is a “person directly and proximately harmed as a result of the commission of an offense for which restitution may be ordered” *Id.* § 3663A(a)(2).

Immediately after observing suspicious activity on Pu’s work computer, Citadel launched an internal investigation with the help of outside counsel and a computer forensic firm. The same day that investigation started, Pu, with Uppal’s help, removed seven hard drives and computer equipment from Pu’s apartment. In doing so, Pu and Uppal concealed evidence from Citadel’s internal investigative team and in contemplation of a future federal investigation. Uppal and Pu’s obstructive conduct directly and proximately harmed Citadel. Had Uppal not helped Pu conceal the hard drives and computer equipment, Citadel may have avoided significant expenses, including the following: (a) Citadel may not have had to continue looking for the hard drives that Pu and Uppal took from Pu’s apartment; (b) Citadel may not have had to hire a scuba diver to enter the Wilmette Canal to recover six of the hard drives; (c) Citadel may not have had to attempt to forensically recover hard drives that had been damaged by sewage and water in the canal; and (d) Citadel may not have had to interview Uppal on multiple occasions.

The substantial costs Citadel incurred during its internal investigation were a necessary, direct, and foreseeable result of Uppal's obstruction of justice. Citadel, therefore, is a victim under the MVRA and is eligible for restitution for its investigative expenses. *See, e.g., United States v. Donaby*, 349 F.3d 1046, 1055 (7th Cir. 2003) (allowing restitution to police department for damages to a police vehicle caused by police pursuit following a bank robbery). Indeed, by passing 18 U.S.C. § 3663A, Congress made clear that the costs to private parties of investigating a criminal offense—such as the costs incurred by Citadel—are direct and foreseeable consequences of a crime that are appropriately included in a restitution order.

Title 18, United States Code, § 3664(h) provides that “[i]f the court finds that more than 1 defendant has contributed to the loss of a victim,” the court may either “make each defendant liable for payment of the full amount of restitution,” or “apportion liability among the defendants to reflect the level of contribution to the victim's loss and economic circumstances of each defendant.” This determination is left to the district court's discretion. *United States v. Moeser*, 758 F.3d 793, 799 (7th Cir. 2014). Despite Uppal's efforts to distance himself from the crimes committed by Pu, the Court should consider the significance of Uppal's obstructive and criminal conduct and the impact that criminal conduct had on Citadel's internal investigation. Uppal's criminal acts increased the number of steps Citadel needed to take during its investigation and were significant contributions to the expenses the firm incurred. It is well within the Court's discretion to find Uppal jointly and severally liable with Pu for the restitution of investigative costs incurred by Citadel.

VI. CONCLUSION

For the foregoing reasons, the United States respectfully requests that this Court sentence defendant Sahil Uppal to a sentence within the advisory Guidelines range of 12 to 18 months' imprisonment.

Dated: January 12, 2015

Respectfully submitted,

ZACHARY T. FARDON
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Certificate of Service

The undersigned Assistant United States Attorney hereby certifies that this document was served on January 12, 2015, in accordance with Fed. R. Crim. P. 49, Fed. R. Civ. P. 5, LR 5.5, and the General Order on Electronic Case Filing (“ECF”) pursuant to the district court’s system as to ECF filers.

/s/ Patrick Otlewski
PATRICK M. OTLEWSKI
Assistant United States Attorney



January 7, 2015

The Honorable Charles Norgle
United States District Court for the Northern District of Illinois
219 S. Dearborn, Courtroom 2341
Chicago, Illinois 60604

Re: Victim Impact - *United States v. Pu et al.* No. 11 cr 699

Dear Judge Norgle,

As Senior Deputy General Counsel for Citadel LLC and its affiliates (“Citadel”), I am extremely grateful that the United States Attorney’s Office and the Federal Bureau of Investigation thoroughly investigated and successfully prosecuted Citadel’s former employees, Yihao Pu (“Pu”) and Sahil Uppal (“Uppal”), for their theft of Citadel’s trade secrets. Citadel appreciates the help of the USAO and the FBI in investigating these thefts and protecting Citadel’s highly proprietary and valuable trade secrets.

The efforts of the USAO and the FBI augmented the significant measures Citadel itself took to investigate the theft of its confidential information and to mitigate any potential harm caused by that theft. By any measure, the thefts committed by Pu and Uppal were disruptive, costly, and burdensome for Citadel. As detailed in the letter dated September 3, 2014 to AUSA Otlewski regarding restitution, Citadel incurred over \$2 million in costs investigating the defendants’ theft and mitigating the risk of harm caused by that theft. In order to prevent the defendants from providing Citadel’s data to any competitor, Citadel enforced non-compete agreements against Pu and Uppal and paid them in order to ensure non-competition for at least fifteen months. The costs incurred by Citadel were not limited to direct out-of-pocket costs. Citadel employees spent hundreds of hours (1) assisting Citadel with its investigation of Pu and Uppal; (2) procuring documents and information to respond to subpoena requests from the USAO; and (3) meeting with the USAO and the FBI to cooperate with the government’s investigation and prosecution of Pu and Uppal.

It is Citadel’s hope that the sentences you impose on Pu and Uppal will individually reflect the gravity of their respective criminal conduct and its impact on Citadel. Theft of trade secrets is a crime with grave consequences, particularly in an economy that is increasingly built on technology and trade secrets. The sentencing of Pu and Uppal will be closely watched, and provides an opportunity to send a clear message that trade secret theft is a serious crime that will



result in serious punishment. It is an important message to send in light of the difficulties inherent in detecting and proving trade secret theft, and in light of the need to deter employees who are tempted to betray the trust that their employers bestow on them.

Sincerely,

A handwritten signature in black ink, appearing to read "Shawn F. Fagan", written in a cursive style.

Shawn F. Fagan
Senior Deputy General Counsel